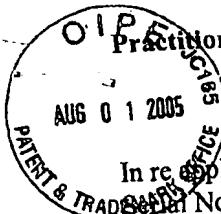


PATENT Dep. & Refund

Practitioner's Docket No. U015525-3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT & TRADEMARK OFFICE

2005 AUG - 2005 SEP

US PATENT & TRADEMARK
OFFICE

In re application of: Masayuki Momose et al.

Group No.: 1310

Serial No.: 10/517,951

Examiner: --

Filed: May 2, 2005

For: Modified Carbon black dispersion liquid and water base ink containing the same

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REFUND

Deposit Account 12-0425 was charged \$50.00 for claims extra total over twenty (Fee Code 1615) and \$360.00 for claims multiple dependent (Fee Code 1616) on April 18, 2005 (Control Nos. 6 & 7).

However, a Preliminary Amendment (copy attached) was filed with the application on December 14, 2004 to address the multiple dependent claims. A copy of the postcard acknowledging receipt by the Patent Office is also attached.

Refund of the \$410.00 by credit to Deposit Account 12-0425 is requested.

Respectfully submitted,

John Richards
LADAS & PARRY
26 West 61st Street
New York, New York 10023
Reg. 30086
Tel. (212) 708-1890

CERTIFICATE OF MAILING/TRANSMISSION (37 C.F.R. 1.8(a))

I hereby certify that, on the date shown below, this correspondence is being:

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deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

Date: July 29, 2005

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Signature

Clifford J. Mass
(type or print name of person certifying)

December 14, 2004

U 015525-3

IN RE: MASAYUKI MOMOSE, et al
INT'L. APPLN. NO.: PCT/JP2004/005908
INT'L. FILING DATE: 23 APRIL 2004
PRIORITY DATE CLAIMED: 23 APRIL 2003
FOR: MODIFIED CARBON BLACK DISPERSION LIQUID AND WATER BASED INK
CONTAINING THE SAME

TRANSMITTAL LETTER DUPLICATE: TRANSLATION OF THE INTERNATIONAL
APPLICATION: INFORMATION DISCLOSURE STATEMENT: SEARCH REPORT:
FORM PTO-1449: REFERENCES: INTERNATIONAL PUBLICATION NO.: WO 2004
094537 A1 (SPEC., CLAIMS & DRAWINGS): PRELIMINARY AMENDMENT: FORM
PCT/IB/301: FORM PCT/IB/304: FORM PCT/IB/307: FCRM PCT/IB/311: \$300.00
(FILING FEE)

SERIAL NO.: 10/517951

EXPRESS MAIL LABEL

EV 481671937 US

CHAPTER I

CJM/gm

10/517951
10/517951 Rec'd PCT/PTO 14 DEC 2004



PATENT

Practitioner's Docket No. U 015525-3

**TRANSMITTAL LETTER TO THE U.S. DESIGNATED OFFICE (DO/US)-
ENTRY INTO THE U.S. NATIONAL STAGE UNDER CHAPTER I**

| | | |
|---|---------------------------|-----------------------|
| INTERNATIONAL APPLICATION NO. | INTERNATIONAL FILING DATE | PRIORITY DATE CLAIMED |
| PCT/JP2004/005908 | 23 APRIL 2004 | 23 APRIL 2003 |
| TITLE OF INVENTION MODIFIED CARBON BLACK DISPERSION LIQUID AND WATER BASE INK CONTAINING THE SAME | | |
| APPLICANT(S) | | |
| MASAYUKI MOMOSE MIHARU KANAYA SOHKO ITOH TATSUYA YAGYU | | |

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PATENT TRADEMARK OFFICE

ATTENTION: DO/US

PRELIMINARY AMENDMENT

Please amend the above identified application as follows.

CERTIFICATION UNDER 37 C.F.R. 1.10*

(Express Mail label number is mandatory.)
(Express Mail certification is optional.)

I hereby certify that this paper, along with any document referred to, is being deposited with the United States Postal Service on this date December 14, 2004 as Express Mail Post Office to Addressee, "mailing Label Number EV 481671937 US, addressed to the: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

GERALDINE MARTI
(type or print name of person mailing paper)
Geraldine Marti

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

IN THE CLAIMS

1. (Original) A modified carbon black dispersion, which is a liquid having dispersed therein a modified carbon black obtained by subjecting a carbon black raw material powder to oxidation treatment, and is characterized in that the modified carbon black has on the surface thereof (a) carboxyl groups, and (b) lactone groups in a molar amount of at least 500 $\mu\text{mol/g}$ relative to the weight of the modified carbon black and a molar ratio of 0.8 to 1.1 times the amount of the carboxyl groups.
2. (Original) The modified carbon black dispersion according to claim 1, characterized in that the molar amount of the carboxyl groups is at least 700 $\mu\text{mol/g}$ relative to the weight of the modified carbon black.
3. (Original) The modified carbon black dispersion according to claim 2, characterized in that the mean particle diameter of the modified carbon black is 150 to 250 nm.
4. (Currently Amended) The modified carbon black dispersion according to ~~any one of claims claim 1 through 3~~, characterized in that the carbon black raw material powder already has on the surface thereof carboxyl groups, and lactone groups in a molar amount of at least 20 $\mu\text{mol/g}$ relative to the weight of the carbon black raw material powder and a molar ratio of 0.65 to 1.1 times the amount of the carboxyl groups.
5. (Currently Amended) The modified carbon black dispersion according to ~~any one of claims claim 1 through 4~~, characterized in that the carbon black raw material powder has a primary particle diameter of 11 to 18 nm, a BET specific surface area of at least 180 m^2/g ,

6. (Currently Amended) The modified carbon black dispersion according to any one of claims claim 1 through 5, characterized in that the carbon black raw material powder is subjected to the oxidation treatment using a hypohalous acid and/or a hypohalite.

7. (Original) The modified carbon black dispersion according to claim 6, characterized in that the carbon black raw material powder is subjected to the oxidation treatment using a hypohalous acid and/or a hypohalite having a chlorine amount relative to the surface area of the carbon black raw material powder of 0.6×10^{-4} to 1.5×10^{-4} mol/m².

8. (Currently Amended) The modified carbon black dispersion according to any one of claims claim 1 through 7, characterized in that the percentage change in the mean particle diameter of the modified carbon black upon 5 weeks elapsing at 70°C is not more than 15%.

9. (Currently Amended) The modified carbon black dispersion according to any one of claims claim 1 through 8, characterized in that the percentage change in the viscosity upon 5 weeks elapsing at 70°C is not more than 10%.

10. (Currently Amended) The modified carbon black dispersion according to any one of claims claim 1 through 9, characterized in that after the oxidation treatment, the liquid obtained is subjected to desalinization, thus making the electrical conductivity of the modified carbon black contained therein be not more than 0.7 mS/cm.

11. (Currently Amended) A water-based ink, characterized by containing the modified carbon black dispersion according to any one of claims claim 1 through 10.

rate of the modified carbon black is not more than 30%.

13. (Currently Amended) The water-based ink according to claim 11 or 12, characterized by having a penetrability such that the penetration time upon applying the ink onto a

recording medium in an amount of 1 mg/cm² is less than 1 second.

14. (Currently Amended) The water-based ink according to any one of claims claim 11 through 13, characterized by having a surface tension at 20°C of not more than 45 mN/m.

15. (Currently Amended) The water-based ink according to any one of claims claim 11 through 14, characterized by containing a glycol butyl ether type water-soluble organic solvent.

16. (Currently Amended) The water-based ink according to any one of claims claim 11 through 15, characterized by containing a nonionic surfactant.

17. (Original) The water-based ink according to claim 16, characterized in that the nonionic surfactant is an acetylene glycol type surfactant.

18. (Currently Amended) A recording method, characterized by carrying out recording on a recording medium by attaching the water-based ink according to any one of claims claim 11 through 17.

19. (Original) The recording method according to claim 18, characterized by being an ink jet method comprising carrying out printing by ejecting droplets of the water-based ink

20. (Currently Amended) A recorded article obtained by carrying out recording using the recording method according to claim 18 or 19.

R E M A R K S

The above amendatory action taken is solely for the purpose of avoiding claim fees that would otherwise accrue due to the presence of multiple dependent claims.

Respectfully submitted,

CLIFFORD J. MASS
LADAS & PARRY LLP
26 WEST 61ST STREET
NEW YORK, NEW YORK 10023
REG.NO.30086(212)708-1887